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**DENTAL CORPS STRUCTURE:  
PAST, PRESENT, AND FUTURE**

BY

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United States Army

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permit. A critical element of both missions is the availability and utilization of dental specialists. Although the majority of wartime dental structure consists of general dentists, it is the military specialist who must provide the education, training and experience which ensures quality care is provided by general and comprehensive dentists to the soldier. Peacetime dental practice relies on the specialist for direct patient care, supervision, leadership, and oversight for the general and comprehensive dentists. The greatest strength of today's dental corps is its outstanding young officers. During the downsizing, it is imperative that we provide the stimuli for continued accession of quality dentists. It is equally important to retain those officers with the greatest potential for continued service to the Army. The ability to retain quality officers depends in large part on the opportunities for specialty training. To remain at the leading edge of the practice of dentistry, to be competitive with our civilian counterparts, and to continue to provide superlative care to soldiers, we must retain our corps of specialists and ensure their incorporation into appropriate Dental Corps structure.

## USAWC MILITARY STUDIES PROGRAM PAPER

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### DENTAL CORPS STRUCTURE: PAST, PRESENT, AND FUTURE

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## ABSTRACT

**AUTHOR:** Richard D. Shipley, COL, USA

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The United States Army Dental Corps has a long and distinguished history of professional service to the soldier. In war, the mission of the Dental Corps is to preserve the fighting strength by the restoration and preservation of oral health and function. The structure to fulfill this mission has remained unchanged for many years although some commanders have informally augmented their units with non-TOE specialists in order to better accomplish their wartime missions. In peacetime, the Dental Corps provides comprehensive dental care for soldiers to ensure they are in optimal oral health and prepared to deploy. Dental care is provided to other authorized beneficiaries as space and time permit. A critical element of both missions is the availability and utilization of dental specialists. Although the majority of wartime dental structure consists of general dentists, it is the military specialist who must provide the education, training and experience which ensures quality care is provided by general and comprehensive dentists to the soldier. Peacetime dental practice relies on the specialist for direct patient care, supervision, leadership, and oversight for the general and comprehensive dentists. The greatest strength of today's dental corps is its outstanding young officers. During the downsizing, it is imperative that we provide the stimuli for continued accession of quality dentists. It is equally important to retain those officers with the greatest potential for continued service to the Army. The ability to retain quality officers depends in large part on the opportunities for specialty training. To remain at the leading edge of the practice of dentistry, to be competitive with our civilian counterparts, and to continue to provide superlative care to soldiers, we must retain our corps of specialists and ensure their incorporation into appropriate Dental Corps structure.

## INTRODUCTION

For over eighty years, commissioned officers of the Army Dental Corps have provided quality care for U.S. soldiers around the world, in peace and in war. Today's dental officer is the best educated, best trained, most productive and motivated of any in our history. As a result, our soldiers enjoy the highest standard of oral health in history. To build on this success and project it into the future, it is imperative that the Dental Corps has a force structure which includes quality general dentists and officers trained in all of the recognized specialties of dentistry. This paper will look briefly at the history of the Dental Corps during the Vietnam War era which was gleaned from an interview with former Dental Corps Chief MG (Ret) Robert B. Shira, and which led to its current force structure. It will examine the dynamics of the ongoing reduction in force and the implications for dental health care delivery. The paper will offer suggestions for the force structure for the future which will accomplish the mission of the Dental Corps in both peace and war. Finally, it will address an issue critical to the continued success of the Dental Corps which is the acquisition, retention, and training of our most skilled and motivated dental officers.

## HISTORY

Army dentists have cared for soldiers in peace and war since William Saunders, assigned as a hospital steward at West Point in 1858, was placed on orders as the first U.S. Army dentist in 1872. <1> Since Army dentists are trained by and recruited from the civilian sector, their education and training have always been a reflection of current standards of care. As the dental profession's body of knowledge increased, dentistry tended to become more and more specialized and the Army followed suit. Formal specialty training in Oral Surgery began in 1931 and a one year dental intern program was begun in 1939. <2>

During the 1950's, the Dental Corps expanded its training opportunities. Specialty training programs were established to enhance professional development in the various disciplines of dentistry. It was during this decade, also, that the Dental Corps saw its first graduate from the resident Command and General Staff College and the U.S. Army War College. In 1961 the Army established its first two-year residency training program in Comprehensive Dentistry at Fort Hood, Texas. <3> The comprehensive dentist's role in providing specialty level care in both peace and war will be discussed in more detail later in this paper.

In 1962, the 36th Medical Detachment (Dental Service) was deployed to the Republic of Vietnam. First deployed during the Korean War, the KJ Team was a Table of Organization and Equipment (TOE) organization configured to provide area dental support to a division. As the number of KJ teams in country grew, a command and control headquarters, the AI Team, was activated. <4> Unlike previous wars, there were no front lines in Vietnam. Seldom did large formations deploy with combat trains on a mission to seize and hold ground. As a result, these mobile dental units were typically employed in fixed or semi-fixed facilities in support of an area of operation. Soldiers who required emergency dental care were evacuated to one of these facilities where they would be treated and then either returned to duty or further evacuated out of country. Soldiers reporting on sick call for even the most routine procedures were lost to their unit for from one to six days with an average of three days. <5> Over 600,000 new soldiers were inducted each year during the height of the war in Vietnam. With such a large turnover of personnel in country, the need for emergency dental care soon became a real problem for unit effectiveness. <6> MG Chandler summarized a philosophy which had been often spoken and once again proven when he said:



Dental and oral disease is universal and is the most common disease of man. Whereas, in civilian life poor oral health may only cause discomfort and pain, in the military environment a simple toothache can incapacitate a combat soldier as effectively as a combat wound.

During the height of the Vietnam conflict, it was reported that one out of eight soldiers had to be withdrawn from duty to receive emergency dental treatment. While this problem to the soldier may only be that of various degrees of discomfort from his dental disease, the effects on the soldiers' organization are more serious. A soldier lost to duty for whatever reason decreases the fighting ability of the organization. When large numbers of soldiers are lost to duty for any reason, the problem must be corrected or a significant reduction in overall force effectiveness will result. <7>

When presented with this problem, the Chief of the Army Dental Corps, MG Robert Shira, ordered his Chief of Professional Services to conduct a comprehensive one year epidemiological study to determine the oral health of incoming recruits at all 13 induction centers in the Continental United States (CONUS). The results revealed an overwhelming unmet need for dental care. For every 1000 soldiers examined, there was a need for 5066 restorations, 1013 extractions, 13 full mouth extractions with subsequent complete dentures, 155 partial dentures, 897 crowns or bridges, and 1229 scalings and prophylaxes. <8> The number of periodontal and hygiene procedures is greater than the total number of soldiers examined since many soldiers required more than one appointment. When

MG Shira's staff examined the dental emergency statistics in Vietnam, they found that the dental emergency rate exceeded 142 per 1000 men per year and 75% of these were caries related. <9>

To help reduce the incidence of dental sick call in Vietnam, MG Shira developed the Dental Combat Effectiveness Program (DCEP). Dental resources were concentrated at Advanced Individual Training (AIT) centers on soldiers with critical combat MOSs. Dental personnel in Hawaii and Vietnam were also alerted to concentrate attention on this same category of soldier to insure he was examined and treated before joining his unit in country. Treatment was focused on carious lesions likely to need attention within 12 to 18 months. Within one year of implementation of the DCEP, dental emergencies fell fifty percent from 142 per thousand per year to 73 per thousand per year. <10> Another contribution to the improvement in dental care in Vietnam was the introduction of the modern dental unit with high speed air turbine handpiece. New portable X-ray developers and adjustable, contoured dental chairs also assisted in boosting the output of quality dental care. <11>

While dental support of the war in Vietnam was excellent and getting better, command and control of dental units in CONUS changed for

the worse. In 1967-68, the Medical Support Activity (MEDSAC) and then the Medical Department Activity (MEDDAC) were created by the Surgeon General to consolidate all health care under the MEDDAC commander who alone was responsible to the installation commander for both medical and dental care. Many problems arose as a result of this consolidation including a lack of professional review and accountability of dental activities, limited control of dental resources by dental authorities, reduced personnel support for dental activities, and a degradation of the command relationship between medical and dental corps within the MEDDAC. These problems were quantified in 1974 when a study demonstrated a 17% decline in dental productivity since the establishment of the MEDDAC concept. <12> A committee of general officers, appointed by The Surgeon General, recommended that dental officers, rather than medical officers should manage dental activities and resources. This plan became known as the Installation Dental Service Management Program and was finally implemented by MG Surindar Bhaskar in 1976. The Dental Corps shaped its own destiny now with increased emphasis on postgraduate dental training as well as advanced military training. They became the first Army Medical Department (AMEDD) corps to hold a

command selection board which selected commanders based on demonstrated professional and military excellence instead of seniority. All Dental Corps officers, including commanders and staff officers, were required to practice dentistry actively. This eliminated the "deadwood" at the top who had lost the respect of the junior dentists. <13> The result of all these changes and innovations was an increase in production, efficiency, retention, and esprit. <14> In 1978, Title 10 of the United States Code was changed so that "The Assistant Surgeon General is Chief of the Dental Corps and is responsible for making recommendations to the Surgeon General and through the Surgeon General to the Chief of Staff on all matters concerning dentistry and the dental health of the Army" <15> It further specified that dental functions of the Army shall be under the direction of the Chief of the Dental Corps and that matters relating to dentistry would be referred to the Chief of the Dental Corps. It also stipulated that dental personnel would be organized into dental units commanded by a Dental Corps officer who would be directly responsible to the commander of the installation, organization or activity for all professional, technical, and administrative matters prescribed by Army regulations. The success of this change in philosophy and structure can be

demonstrated by noting that productivity increased by over 150% between 1975 and 1989 while retention of junior officers increased by 600% during the same time period. <16>

### MISSION AND FORCE STRUCTURE

The real proof of Dental Corps efficiency and accomplishment is found by examining the oral health of the Army. Oral health has been achieved through the years by successful implementation of the Oral Health Fitness Program. The number of soldiers in CONUS, Panama, Alaska and Hawaii requiring extensive dental care before being eligible to deploy has been reduced to less than 4 %. <17> This remarkable level of oral health and deployability is due, in large part, because of the close working relationships that have been developed between the Dental Activity (DENTAC) commanders and line unit commanders which they support. That both benefit from this relationship is apparent. When called upon to deploy and fight, the line unit commander can be confident that personnel losses because of preventable dental disease will be minimized. The dental unit commander can take pride that he has accomplished his mission of "preserving the fighting strength" by the efficient and caring

practice of his profession. When called upon to deploy to Desert Shield, American forces were healthy and ready. When units of the Reserve Component (RC) were mobilized, it was quickly apparent that they were not. Using the same standards of oral health by which the Active Component (AC) was measured, 22% of all RC soldiers had dental conditions which could be expected to cause a dental emergency within 12 months. <18> Working around the clock, DENTAC personnel restored these soldiers to health and function. In addition to pre-deployment dental care, division dental officers and TOE dental units were deployed to Southwest Asia (SWA) to provide both emergency and routine dental care to soldiers in theater.

According to AR 611-101, the mission of the Dental Corps in peace is to ensure that each soldier is in optimal oral health and prepared to deploy without becoming a non-combat dental casualty. A secondary mission is to provide dental health care to family members and other eligible beneficiaries of the military community in accordance with Public Law and AR 40-3. In war, the mission of the Dental Corps is to conserve the fighting strength of soldiers by the restoration and preservation of oral health and function, and by assisting in the

emergency medical management of combat and noncombat casualties. In both peace and war the Dental Corps has the mission to support casualty identification through dental forensic identification operations. The principal functions performed by military dentists are: clinical and laboratory dentistry, command and staff, teaching, and research. <19>

To accomplish its missions, the Dental Corps consists of TOE personnel who provide unit support, TOE dental units for area support, Table of Distribution and Allowance (TDA) augmentation to TOE units, and TDA dental units. The first echelon of dental care is the division dental officer. This officer is assigned to a division where he is responsible for the emergency dental care for a brigade-sized unit. Time and situation permitting, he can also provide sustaining dental care for his unit. The senior division dental officer is a Comprehensive Dentist (63B) and serves also as the Division Dental Surgeon. The other division dental officers are General Dentists (63A).

The Medical Company (Dental Service) provides area dental support and is allocated on the basis of one per 20,000 soldiers. This unit is comprised of 11 General Dentists (63A), 2 Comprehensive Dentists (63B), 1 Prosthodontist (63F), and a Commander (63R) who is assisted by a

Medical Field Assistant (67B). This unit can provide emergency, sustaining and maintaining dental care within its area of responsibility.

Command and control of the Medical Companies (Dental Service) is provided by the Dental Battalion. It consists of a dental officer Commander (63R) and two Medical Service Corps officers who serve as Executive Officer (67H) and Medical Operations Officer (67B).

Each TOE hospital is authorized one Oral and Maxillofacial Surgeon (63N) and one Comprehensive Dentist (63B). In addition, an Oral and Maxillofacial Surgeon is authorized in each Medical Team (Head and Neck Surgery).

In addition to those authorized in the Dental Companies, one Prosthodontist (63F) serves in the theater in the Medical Team (Prosthodontics) which includes a dental laboratory capable of fabricating and repairing dental prostheses.

The senior Dental Corps officer in the Medical Command is the Deputy Commander (BG). In charge of daily dental operations is the Assistant Dental Surgeon (63R). On his staff is a Dental Public Health Officer (63H) who is responsible for plans and programs to ensure the oral health of the command. His focus is on prevention of injury and disease.



In peacetime, TOE units outside the Continental United States (OCONUS) may be augmented by additional dental officers above and beyond those required by the TOE (the TDA Augmentation). They are assigned to provide soldiers specialty care which is lacking in the TOE structure and to provide family member care where it is authorized. Besides additional dentists of the type authorized by the TOE, the augmentation package may consist of Periodontists (63D), Endodontists (63E), Pediatric Dentists (63K), Orthodontists (63M), and Oral Pathologists (63P).

Dental health care delivery in CONUS, Panama, Alaska and Hawaii is provided by Dental Activities (DENTACs) which are TDA organizations configured and tailored by the Director of Dental Services (DDS) at Health Services Command (HSC) in consultation with the Deputy Commander of HSC. The DENTACs are responsible for the peacetime dental health care mission and are staffed with general dentists and specialists as appropriate and available.

"Education is the bed rock, the backbone, the foundation of the Army Dental Care System." <20> Standards of care in the Army must equal or surpass that of our civilian counterparts. "Equal", because our dentists come from and return to the civilian practice of dentistry and our training

programs must be accredited by the American Dental Association (ADA).

"Surpass", because we are preparing combat soldiers to deploy to a hostile environment with little or no notice where dental care may not be immediately available. The *needs* of the soldier must be met in peacetime so that there is a reduced *demand* for care in war. This concept separates our philosophy of military practice from that of our civilian counterparts. While the civilian specialist is dependent upon patient demand for his care, we in the Army must anticipate and treat the dental needs of our soldiers. We do this through a comprehensive Oral Health Fitness Program which ensures that each soldier is periodically examined in order to ascertain his dental needs. A treatment plan is prepared and the soldier is appointed repeatedly for dental treatment until his need is met. Much of the need of our soldier patients involves specialty care. We are obliged, therefore, to provide appropriate specialty care in our facilities.

To ensure an adequate number of trained specialists are available, the Dental Corps selects experienced general dentists who have demonstrated outstanding clinical skills, military aptitude, and expressed desire for specialty training in one of nine dental specialties; seven of which are conducted at Army training programs. Currently, about 59 per

cent of the total Dental Corps has received training or is currently in a training program. As specialists gain experience and knowledge, they are expected to pursue board certification as an indicator of professional excellence. Well over half of our trained specialists have achieved board certification. <21> In addition, these career officers must attain military education at least to the level of Military Education Level (MEL) 4 to be competitive for promotion to Colonel. The Dental Corps Life Cycle Model was the first in the Army Medical Department (AMEDD) and is provided as a guide to every Dental Corps officer early in his career. <Fig 1>

Dentistry has become more complex and more specialized. It became apparent that the Army could not afford a specialist from each discipline in each TOE unit or DENTAC. Therefore, a new specialty program was developed by and for the Armed Forces to meet its special needs. In 1961, the first two year Comprehensive Dentistry residency was established at Fort Hood, Texas. Its purpose was to provide specialty training by traditional Army dental specialists from the various disciplines of dentistry to produce a dental officer who could treat the great majority of patients requiring specialty care but who would realize when it was appropriate to refer the patient to the traditional specialist. The

# AMEDD CAREER DEVELOPMENT PLAN

## DENTAL CORPS - DC

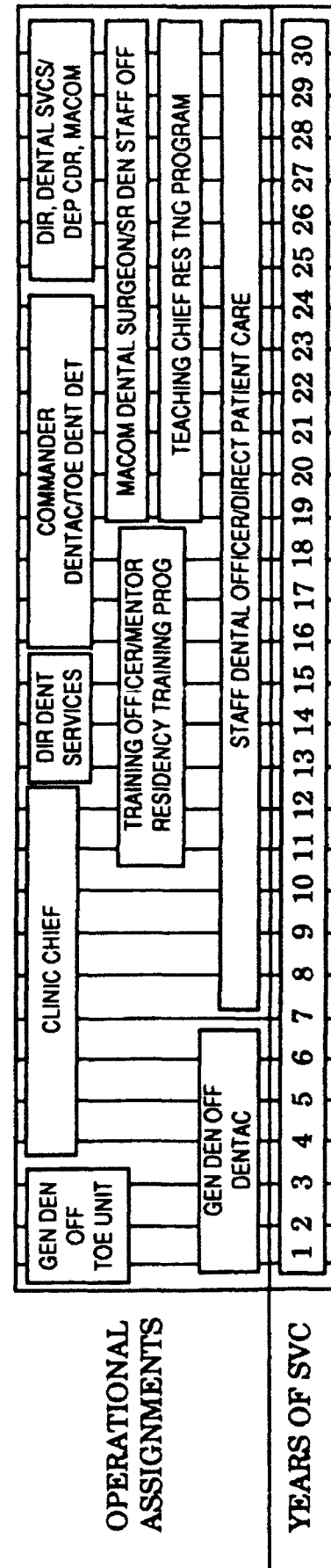
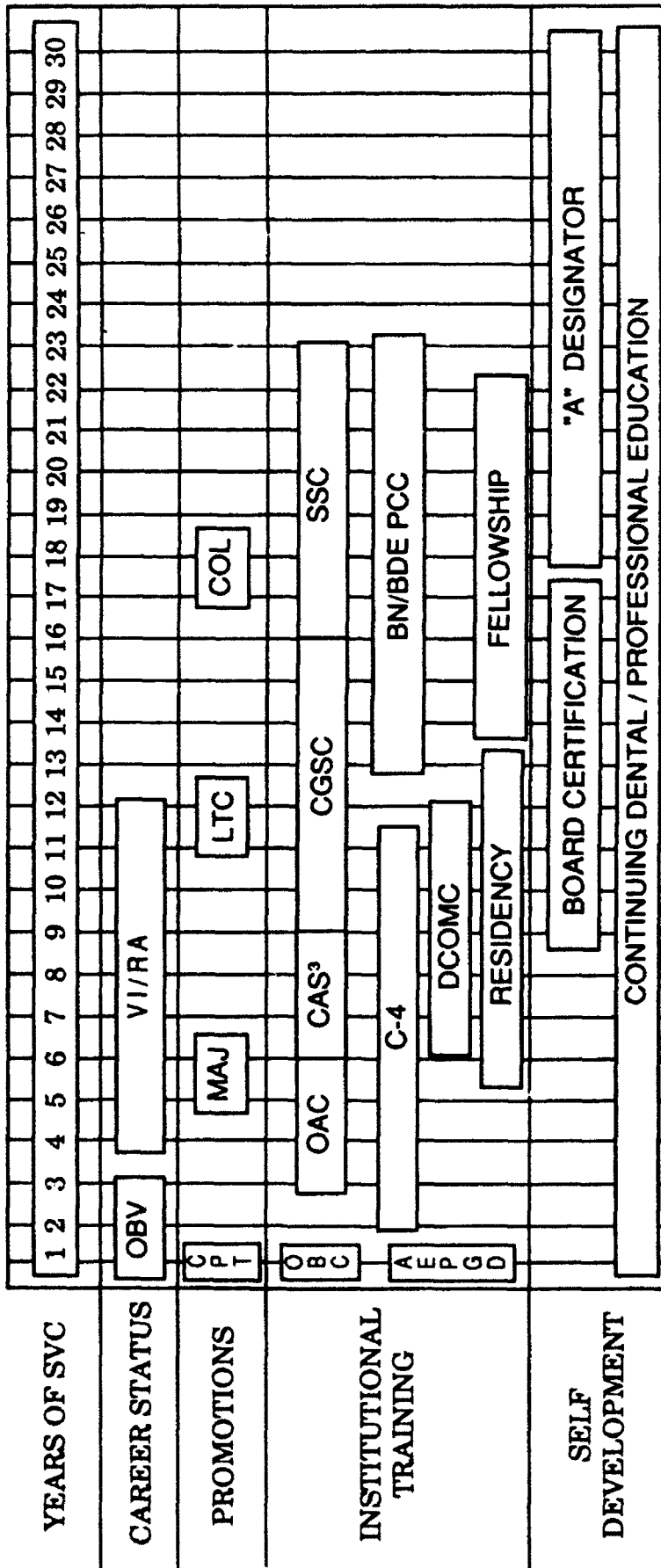


Figure 1

Comprehensive Dentist was the tool by which the Dental Corps could provide specialty care in a theater of operation at the level stated.

There is a discrepancy between the TOE structure and the actual composition of the Dental Corps which follows from the above discussion. Not all specialities are represented in TOE structure. Each, with its unique professional skills, however, is absolutely imperative to provide the high standard of care necessary in preparing soldiers for deployment. The senior leadership of the Dental Corps is comprised of trained specialists from all disciplines of dentistry. Commanders of deployed TOE units (63R, AOC immaterial) bring their personal specialty skills with them and can serve as both practitioner and consultant for the theater. An example would be the commander of a KJ Team in Vietnam who was an endodontist. Even though his primary AOC was not authorized on the TOE, his knowledge and expertise in country were invaluable. <22> Although not addressed by doctrine, a commander can sometimes tailor his unit by adding or substituting a non-TOE specialist prior to deployment. This was done by the commander of the 257th Medical Detachment (Dental Service) in cooperation with the Fort Bragg DENTAC commander prior to the 257th Medical Detachment's deployment to SWA. <23>

## IMPACT OF DOWNSIZING

The Dental Corp's contribution to the downsizing of the AMEDD could pose a serious challenge to its structure and capabilities (28% reduction in Budgeted End Strength projected between FY 91 - FY 96). <24> The first issue is the virtual elimination of other than active duty (OTAD) care.

This may have a negative impact on health and quality of life for family members, retirees and their families. Although this dictum should have no adverse impact on military readiness in the short run, it may have an adverse impact on the skills of the Army dentist and ultimately on our ability to attract dentists into military service. As Past President of the American Dental Association (ADA) and Dean Emeritus of Tufts College of Medical Dentistry, Dr. Shira lauds the "tremendous training received by the military specialist and the wonderful contribution they make to American dentistry when they leave the military service. They are invaluable in running our dental schools."<25> Retired and separated military dentists have long been touted as the finest practitioners, teachers, and researchers in the profession. Will the skills of the military dentist suffer if he spends his total career treating only healthy young men and women? This concept is relevant only because of our historical and

desirable close ties with organized dentistry and the current standards of care which they represent.

In addition to the reduction of family member related specialities, there is a suggestion by some senior planners that the Dental Corps should retain only those specialities required by TOE to support a war effort. If approved, this plan would further eliminate endodontists, periodontists, and oral pathologists from active duty. These specialists are essential health care providers and are indispensable to the professional training of General and Comprehensive Dentists. Their loss to the Army would compound the insult of losing family member care dentists in that a young dental officer would be severely limited in his choice of specialty options. This, in addition to the limited scope of his practice would force the question; will the practice of military dentistry in the future be relevant enough to the civilian practice of dentistry to entice the same high quality dentist to service that we now so proudly recruit and retain?

#### FORCE STRUCTURE MODIFICATION

To insure a soldier's timely access to needed specialty care, the TOE structure should be revised to include endodontists and periodontists. One

method to accomplish this would be the creation of a specialty team which would be assigned to the theater to provide complex specialty care as well as oversight and consultation to the General and Comprehensive Dentists in the theater.

The Dental Corps structure must be adequate to accomplish the stated peacetime and wartime missions. To remain a highly professional and motivated corps, it must reflect all disciplines of the profession. Soldiers who are stationed overseas are authorized dental care for their family members. Dental officers are assigned overseas for this mission. Since we are not part of a foreign legion, there must also be a stateside rotation base for those dentists stationed overseas. While stationed in CONUS, these dental officers can be used to provide medically adjunctive care, family member care in dentally underserved areas, orthodontic consultation to oral and maxillofacial surgery cases, and mentoring for general and comprehensive dental training programs. Judging from recent military missions, it seems likely that future military operations will involve humanitarian assistance which suggests a need for continued pediatric dentistry training in the Comprehensive Dentistry Training Program. The mobilization and deployment to SWA revealed an increasing



number of our soldiers undergoing orthodontic care indicating that some training in this specialty is also still required.

### ACCESSION, TRAINING, AND RETENTION

Once reduced to its new end strength, how can the Dental Corps continue to recruit, train, and retain the same high quality dental officer it currently enjoys? Officers reporting to the AMEDD Officers Basic Course report dental school debts as high as \$180,000 with an average of \$55,000. <26> Total annual entitlements for a new captain including Base Pay, BAQ, VHA, BAS, and Variable Special Pay (VSP) are approximately \$36,000. The average full time civilian general dentist earns over \$95,000 per year although the starting income is around \$55,000. <27> To compete for top students in the face of rising school costs, the Health Professions Scholarship Program (HPSP) should be expanded to include more dental students.

Aside from patriotism and service to country, the most compelling reason for new graduates to join the Army Dental Corps is the allure of additional professional training, which leads to board eligibility in a recognized specialty of dentistry. We should consider offering specialty

training earlier in the career. If selected for training after an initial tour as a General Dentist, the officer could be specialty trained by the fifth to eighth year of service, depending upon the chosen specialty and whether or not he attended the AMEDD Officer Advanced Course in route. After a pay-back operational assignment, the officer may choose to opt for a civilian practice where the average annual income for all specialists is about \$140,000 compared to military entitlements including all specialty pays and training costs, of about \$54,000 per year. <28> If the officer stays in the Army until retirement eligible, his annual cost to the government, counting retirement pay, jumps to over \$100,000 per year. <29> The appendix contains detailed charts which compare military and civilian costs among general dentists with 4 and 20 years of service (YOS), and specialists with 12 and 20 YOS.

Military dentists are much more cost effective than civilians, especially in the specialties. We should ensure adequate accessions by increasing the number of HPSP scholarships. This would insure a sufficient numbers of General Dental Officers to fill all TOE authorizations. The General Dentists are the backbone of the corps and provide the majority of dental care. HSC has contracted General Dentists

but has not demonstrated an equal ability to contract specialists. If additional civilianization of the corps is necessary, it should be in the ranks of General Dentists. This would allow a greater selection rate for specialty training and provide an incentive for dentists to enter and stay in the corps. Selection for specialty training should be early in the career which would likely result in some specialists leaving service prior to eligibility for retirement benefits. This would reduce retention, the high percentage of senior officers, and total end strength. Those choosing to remain in the Army would be those motivated by the intangible rewards of military service. The "revolving door" philosophy is contrary to Dental Corps tradition and policy but is the most cost efficient way of doing business and it insures a high selection rate for specialty training which would be desirable from the point of view of the younger officers.

## CONCLUSION

The history of the Dental Corps is replete with selfless professional service to the soldiers of our nation. It's officers combine the finest traditions of two professions into an unparalleled, satisfying career. The future of the Dental Corps will include changes in size, structure, and

mission. I suggest that we maintain a high specialist to generalist ratio for several reasons. Trained specialists are required to teach our General and Comprehensive Dentists both formally in training programs and informally in our clinics. Specialists are necessary for oversight, consultation, and timely referral from generalists. While we obviously must retain enough General Dentists to fill all TOE authorizations, HSC has shown it can contract General Dentists more easily and less expensively than it can contract trained specialists. Young General Dentists are eager for specialty training and are much more inclined to stay in the Army if they think there is a realistic opportunity for advanced training. A higher specialist to generalist ratio would mean increased opportunities for training even while the total number of dentists in training is decreasing due to downsizing.

We must maintain a structure which includes all specialties and train our best officers early in their careers. The ultimate challenge to the continued success of the Army Dental Care System will be to access, train, and retain the highest quality dental officers to proudly support the mission of the Dental Corps and the Army.



## APPENDIX

### COST COMPARISON BETWEEN SELECTED MILITARY AND CIVILIAN DENTISTS

- Chart 1: Military and Civilian Costs of a General Dentist with 4 Years of Service
- Chart 2: Military and Civilian Costs of a Dental Specialist with 12 Years of Service
- Chart 3: Military and Civilian Costs of a Dental Specialist with 20 Years of Service
- Chart 4: Military and Civilian Costs of a General Dentist with 20 Years of Service

Military and Civilian Costs of a General Dentist with 4 Years of Service

| Pay Grade  | TIS      | Pay/Mo | # Yrs | Tot Pay | BAQ/Mo | Tot BAQ  | VSP  | BCP | DASP | Total Spec | Tng Cost | Ave HPSP |
|--|----------|--------|-------|---------|--------|----------|------|-----|------|------------|----------|----------|
| CPT/O-3  | Under 2  | 1987.5 | 2     | 47700   | 537.3  | 12895    | 2400 |     |      | 2400       |          |          |
| CPT/O-3  | Over 2   | 2222.4 | 1     | 26669   | 537.3  | 6448     | 2000 |     |      | 2000       |          |          |
| CPT/O-3  | Over 3   | 2375.7 | 1     | 28508   | 537.3  | 6448     | 2000 |     | 6000 | 8000       |          |          |
| TOTAL  |          |        | 4     | 102877  |        | 25790    | 6400 | 0   | 6000 | 12400      | 8060     |          |
| AVE/YR   |          |        |       | 25719   |        | 6448     | 1600 | 0   | 1500 | 3100       | 2015     |          |
| ANNUAL MILITARY COSTS  |          |        |       |         |        |          |      |     |      |            |          |          |
| AVE BASE   | 25719    |        |       |         |        |          |      |     |      |            |          |          |
| AVE BAQ  | 6448     |        |       |         |        |          |      |     |      |            |          |          |
| VHA  | 3000     | *      |       |         |        |          |      |     |      |            |          |          |
| BAS  | 1600     | *      |       |         |        |          |      |     |      |            |          |          |
| VSP  | 1600     |        |       |         |        |          |      |     |      |            |          |          |
| BCP  | 0        |        |       |         |        |          |      |     |      |            |          |          |
| DASP   | 1500     |        |       |         |        |          |      |     |      |            |          |          |
| RET PAY  | 0        | *      |       |         |        |          |      |     |      |            |          |          |
| TNG COST   | 2015     |        |       |         |        |          |      |     |      |            |          |          |
| TOTAL  | \$41,882 |        |       |         |        | \$95,000 |      |     |      |            |          |          |
| ANNUAL CIVILIAN COSTS  |          |        |       |         |        |          |      |     |      |            |          |          |
| Average Full Time General Dentist (32+hr/wk)   |          |        |       |         |        |          |      |     |      |            |          |          |
| BAQ = Basic Allowance for Quarters   |          |        |       |         |        |          |      |     |      |            |          |          |
| VHA = Variable Housing Allowance   |          |        |       |         |        |          |      |     |      |            |          |          |
| BAS = Basic Allowance for Subsistence  |          |        |       |         |        |          |      |     |      |            |          |          |
| RET PAY = Retirement Pay per Year for Average Retiree Lifetime   |          |        |       |         |        |          |      |     |      |            |          |          |
| * Source for VHA, BAS, RET PAY: Office of the Chief, Medical Corps Affairs, OTSG   |          |        |       |         |        |          |      |     |      |            |          |          |
| Source for Civilian Income: 1990 ADA Survey  |          |        |       |         |        |          |      |     |      |            |          |          |
| TIS = Time in Service  |          |        |       |         |        |          |      |     |      |            |          |          |
| VSP = Variable Special Pay   |          |        |       |         |        |          |      |     |      |            |          |          |
| BCP = Board Certification Pay  |          |        |       |         |        |          |      |     |      |            |          |          |
| DASP = Dental Additional Special Pay   |          |        |       |         |        |          |      |     |      |            |          |          |
| Total Spec = Total Special Pays for Selected Dental Officers (VSP + BCP + DASP)  |          |        |       |         |        |          |      |     |      |            |          |          |
| Ave HPSP = Total HPSP Tng Cost divided by number of accessions per year  |          |        |       |         |        |          |      |     |      |            |          |          |
| Tng Cost = Total Cost of Specialty Training Averaged Per Year  |          |        |       |         |        |          |      |     |      |            |          |          |
| Figures extracted from Cost Effective Analysis, Zero Based Force Sizing Model, AMEDD Personnel Proponent Directorate, AMEDD Center and School, Ft. Sam Houston, TX, June 1992. |          |        |       |         |        |          |      |     |      |            |          |          |

Military and Civilian Costs of a Dental Specialist with 12 Years of Service

| Pay Grade  | TIS      | Pay/Mo | # Yrs | Tot Pay | BAQ/Mo | Tot BAQ   | VSP   | BCP | DASP  | Total Spec | Tng Cost |
|--|----------|--------|-------|---------|--------|-----------|-------|-----|-------|------------|----------|
| CPT/O-3  | Under 2  | 1987.5 | 2     | 47700   | 537.3  | 12895     | 2400  |     |       | 2400       |          |
| CPT/O-3  | Over 2   | 2222.4 | 1     | 26669   | 537.3  | 6448      | 2000  |     |       | 2000       |          |
| CPT/O-3  | Over 3   | 2375.7 | 1     | 28508   | 537.3  | 6448      | 2000  |     | 6000  | 8000       |          |
| CPT/O-3  | Over 4   | 2628.6 | 2     | 63086   | 537.3  | 12895     | 4000  |     | 12000 | 16000      |          |
| MAJ/O-4  | Over 6   | 2829.9 | 2     | 67918   | 649.2  | 15581     | 8000  |     | 12000 | 20000      |          |
| MAJ/O-4  | Over 8   | 2954.7 | 2     | 70913   | 649.2  | 15581     | 8000  |     | 0     | 8000       | 44000    |
| MAJ/O-4  | Over 10  | 3156.3 | 2     | 75751   | 649.2  | 15581     | 12000 |     | 42000 | 80400      | 44000    |
| TOTAL  |          |        | 12    | 380545  |        | 85428     | 38400 | 0   | 3500  | 6700       | 3666.67  |
| AVE/YR   |          |        |       | 31712   |        | 7119      | 3200  | 0   |       |            |          |
| ANNUAL MILITARY COSTS  |          |        |       |         |        |           |       |     |       |            |          |
| AVE BASE   | 31712    |        |       |         |        |           |       |     |       |            |          |
| AVE BAQ  | 7119     |        |       |         |        |           |       |     |       |            |          |
| VHA  | 3000     | *      |       |         |        |           |       |     |       |            |          |
| BAS  | 1600     | *      |       |         |        |           |       |     |       |            |          |
| VSP  | 3200     |        |       |         |        |           |       |     |       |            |          |
| BCP  | 0        |        |       |         |        |           |       |     |       |            |          |
| DASP   | 3500     |        |       |         |        |           |       |     |       |            |          |
| RET PAY  | 0        | *      |       |         |        |           |       |     |       |            |          |
| TNG COST   | 3667     |        |       |         |        |           |       |     |       |            |          |
| TOTAL  | \$53,798 |        |       |         |        | \$138,000 |       |     |       |            |          |
| BAQ = Basic Allowance for Quarters   |          |        |       |         |        |           |       |     |       |            |          |
| VHA = Variable Housing Allowance   |          |        |       |         |        |           |       |     |       |            |          |
| BAS = Basic Allowance for Subsistence  |          |        |       |         |        |           |       |     |       |            |          |
| RET PAY = Retirement Pay per Year for Average Retiree Lifetime   |          |        |       |         |        |           |       |     |       |            |          |
| * Source for VHA, BAS, RET PAY: Office of the Chief, Medical Corps Affairs, OTSG   |          |        |       |         |        |           |       |     |       |            |          |
| Source for Civilian Income: 1990 ADA Survey  |          |        |       |         |        |           |       |     |       |            |          |
| TIS = Time in Service  |          |        |       |         |        |           |       |     |       |            |          |
| VSP = Variable Special Pay   |          |        |       |         |        |           |       |     |       |            |          |
| BCP = Board Certification Pay  |          |        |       |         |        |           |       |     |       |            |          |
| DASP = Dental Additional Special Pay   |          |        |       |         |        |           |       |     |       |            |          |
| Total Spec = Total Special Pays for Selected Dental Officers (VSP + BCP + DASP)  |          |        |       |         |        |           |       |     |       |            |          |
| Ave HPSP = Total HPSP Tng Cost divided by number of accessions per year  |          |        |       |         |        |           |       |     |       |            |          |
| Tng Cost = Total Cost of Specialty Training Averaged Per Year  |          |        |       |         |        |           |       |     |       |            |          |
| # Figures extracted from Cost Effective Analysis, Zero Based Force Sizing Model, AMEDD Personnel Proponent Directorate, AMEDD Center and School, Ft. Sam Houston, TX, June 1992. |          |        |       |         |        |           |       |     |       |            |          |

Chart 2



Military and Civilian Costs of a Dental Specialist with 20 Years of Service

| Pay Grade  | TIS       | Pay/Mo | # Yrs | Tot Pay | BAQ/Mo | Tot BAQ   | VSP   | BCP   | DASP   | Total Spec | Tng Cost       |
|--|-----------|--------|-------|---------|--------|-----------|-------|-------|--------|------------|----------------|
| CPT/O-3  | Under 2   | 1987.5 | 2     | 47700   | 537.3  | 12895     | 2400  |       |        | 2400       |                |
| CPT/O-3  | Over 2    | 2222.4 | 1     | 26669   | 537.3  | 6448      | 2000  |       |        | 2000       |                |
| CPT/O-3  | Over 3    | 2375.7 | 1     | 28508   | 537.3  | 6448      | 2000  |       | 6000   | 8000       |                |
| CPT/O-3  | Over 4    | 2628.6 | 2     | 63086   | 537.3  | 12895     | 4000  |       | 12000  | 16000      |                |
| MAJ/O-4  | Over 6    | 2829.9 | 2     | 67918   | 649.2  | 15581     | 8000  |       | 12000  | 20000      |                |
| MAJ/O-4  | Over 8    | 2954.7 | 2     | 70913   | 649.2  | 15581     | 8000  |       | 0      | 8000       | 44000 2 Yr Res |
| MAJ/O-4  | Over 10   | 3156.3 | 2     | 75751   | 649.2  | 15581     | 12000 |       | 12000  | 24000      |                |
| LTC/O-5  | Over 12   | 3458.4 | 2     | 83002   | 736.2  | 17669     | 12000 | 6000  | 12000  | 30000      |                |
| LTC/O-5  | Over 14   | 3690.3 | 2     | 88567   | 736.2  | 17669     | 8000  | 8000  | 16000  | 32000      |                |
| LTC/O-5  | Over 16   | 3966.6 | 2     | 95198   | 736.2  | 17669     | 8000  | 8000  | 16000  | 32000      |                |
| COL/O-6  | Over 18   | 4674.6 | 2     | 112190  | 764.1  | 18338     | 6000  | 8000  | 20000  | 34000      |                |
| TOTAL  |           |        | 20    | 759503  |        | 156773    | 72400 | 30000 | 106000 | 208400     | 44000          |
| AVE/YR   |           |        |       | 37975   |        | 7839      | 3620  | 1500  | 5300   | 10420      | 2200           |
| <b>ANNUAL MILITARY COSTS</b>   |           |        |       |         |        |           |       |       |        |            |                |
| AVE BASE   | 37975     |        |       |         |        |           |       |       |        |            |                |
| AVE BAQ  | 7839      |        |       |         |        |           |       |       |        |            |                |
| VHA  | 3000      | *      |       |         |        |           |       |       |        |            |                |
| BAS  | 1600      | *      |       |         |        |           |       |       |        |            |                |
| VSP  | 3620      |        |       |         |        |           |       |       |        |            |                |
| BCP  | 1500      |        |       |         |        |           |       |       |        |            |                |
| DASP   | 5300      |        |       |         |        |           |       |       |        |            |                |
| RET PAY  | 38000     | *      |       |         |        |           |       |       |        |            |                |
| TNG COST   | 2200      |        |       |         |        |           |       |       |        |            |                |
| TOTAL  | \$101,034 |        |       |         |        | \$138,000 |       |       |        |            |                |
| <b>ANNUAL CIVILIAN COSTS</b>   |           |        |       |         |        |           |       |       |        |            |                |
| BAQ = Basic Allowance for Quarters   |           |        |       |         |        |           |       |       |        |            |                |
| VHA = Variable Housing Allowance   |           |        |       |         |        |           |       |       |        |            |                |
| BAS = Basic Allowance for Subsistence  |           |        |       |         |        |           |       |       |        |            |                |
| RET PAY = Retirement Pay per Year for Average Retiree Lifetime   |           |        |       |         |        |           |       |       |        |            |                |
| * Source for VHA, BAS, RET PAY: Office of the Chief, Medical Corps Affairs, OTSG   |           |        |       |         |        |           |       |       |        |            |                |
| Source for Civilian Income: 1990 ADA Survey  |           |        |       |         |        |           |       |       |        |            |                |
| TIS = Time in Service  |           |        |       |         |        |           |       |       |        |            |                |
| VSP = Variable Special Pay   |           |        |       |         |        |           |       |       |        |            |                |
| BCP = Board Certification Pay  |           |        |       |         |        |           |       |       |        |            |                |
| DASP = Dental Additional Special Pay   |           |        |       |         |        |           |       |       |        |            |                |
| Total Spec = Total Special Pays for Selected Dental Officers (VSP + BCP + DASP)  |           |        |       |         |        |           |       |       |        |            |                |
| Ave HPSP = Total HPSP Tng Cost divided by number of accessions per year  |           |        |       |         |        |           |       |       |        |            |                |
| Tng Cost = Total Cost of Specialty Training Averaged Per Year  |           |        |       |         |        |           |       |       |        |            |                |
| # Figures extracted from Cost Effective Analysis, Zero Based Force Sizing Model, AMEDD Personnel Proponent Directorate, AMEDD Center and School, Ft. Sam Houston, TX, June 1992. |           |        |       |         |        |           |       |       |        |            |                |

Military and Civilian Costs of a General Dentist with 20 Years of Service

| Pay Grade  | TIS      | Pay/Mo | # Yrs | Tot Pay | BAQ/Mo | Tot BAQ  | VSP   | BCP | DASP   | Total Spec | Tng Cost | AVE HPSP |
|--|----------|--------|-------|---------|--------|----------|-------|-----|--------|------------|----------|----------|
| CPT/O-3  | Under 2  | 1987.5 | 2     | 47700   | 537.3  | 12895    | 2400  |     |        | 2400       | 8060     | AVE HPSP |
| CPT/O-3  | Over 2   | 2222.4 | 1     | 26669   | 537.3  | 6448     | 2000  |     |        | 2000       |          |          |
| CPT/O-3  | Over 3   | 2375.7 | 1     | 28508   | 537.3  | 6448     | 2000  |     | 6000   | 8000       |          |          |
| CPT/O-3  | Over 4   | 2628.6 | 2     | 63086   | 537.3  | 12895    | 4000  |     | 12000  | 16000      |          |          |
| MAJ/O-4  | Over 6   | 2829.9 | 2     | 67918   | 649.2  | 15581    | 8000  |     | 12000  | 20000      |          |          |
| MAJ/O-4  | Over 8   | 2954.7 | 2     | 70913   | 649.2  | 15581    | 8000  |     | 12000  | 20000      |          |          |
| MAJ/O-4  | Over 10  | 3156.3 | 2     | 75751   | 649.2  | 15581    | 12000 |     | 12000  | 24000      |          |          |
| LTC/O-5  | Over 12  | 3458.4 | 2     | 83002   | 736.2  | 17669    | 12000 |     | 12000  | 24000      |          |          |
| LTC/O-5  | Over 14  | 3690.3 | 2     | 88567   | 736.2  | 17669    | 8000  |     | 16000  | 24000      |          |          |
| LTC/O-5  | Over 16  | 3966.6 | 2     | 95198   | 736.2  | 17669    | 8000  |     | 16000  | 24000      |          |          |
| COL/O-6  | Over 18  | 4674.6 | 2     | 112190  | 764.1  | 18338    | 6000  |     | 20000  | 26000      |          |          |
| TOTAL  |          |        | 20    | 759503  |        | 156773   | 72400 | 0   | 118000 | 190400     | 8060     |          |
| AVE/VR   |          |        |       | 37975   |        | 7839     | 3620  | 0   | 5900   | 9520       | 403      |          |
| ANNUAL MILITARY COSTS  |          |        |       |         |        |          |       |     |        |            |          |          |
| AVE BASE   | 37975    |        |       |         |        |          |       |     |        |            |          |          |
| AVE BAQ  | 7839     |        |       |         |        |          |       |     |        |            |          |          |
| VHA  | 3000     | *      |       |         |        |          |       |     |        |            |          |          |
| BAS  | 1600     | *      |       |         |        |          |       |     |        |            |          |          |
| VSP  | 3620     |        |       |         |        |          |       |     |        |            |          |          |
| BCP  | 0        |        |       |         |        |          |       |     |        |            |          |          |
| DASP   | 5900     |        |       |         |        |          |       |     |        |            |          |          |
| RET PAY  | 38000    | *      |       |         |        |          |       |     |        |            |          |          |
| TNG COST   | 403      |        |       |         |        |          |       |     |        |            |          |          |
| TOTAL  | \$98,337 |        |       |         |        | \$95,000 |       |     |        |            |          |          |
| ANNUAL CIVILIAN COSTS  |          |        |       |         |        |          |       |     |        |            |          |          |
| Average Full Time General Dentist (32-hr/wk)   |          |        |       |         |        |          |       |     |        |            |          |          |
| BAQ = Basic Allowance for Quarters   |          |        |       |         |        |          |       |     |        |            |          |          |
| VHA = Variable Housing Allowance   |          |        |       |         |        |          |       |     |        |            |          |          |
| BAS = Basic Allowance for Subsistence  |          |        |       |         |        |          |       |     |        |            |          |          |
| RET PAY = Retirement Pay per Year for Average Retiree Lifetime   |          |        |       |         |        |          |       |     |        |            |          |          |
| * Source for VHA, BAS, RET PAY: Office of the Chief, Medical Corps Affairs, OTSG   |          |        |       |         |        |          |       |     |        |            |          |          |
| Source for Civilian Income: 1990 ADA Survey  |          |        |       |         |        |          |       |     |        |            |          |          |
| TIS = Time in Service  |          |        |       |         |        |          |       |     |        |            |          |          |
| VSP = Variable Special Pay   |          |        |       |         |        |          |       |     |        |            |          |          |
| BCP = Board Certification Pay  |          |        |       |         |        |          |       |     |        |            |          |          |
| DASP = Dental Additional Special Pay   |          |        |       |         |        |          |       |     |        |            |          |          |
| Total Spec = Total Special Pays for Selected Dental Officers (VSP + BCP + DASP)  |          |        |       |         |        |          |       |     |        |            |          |          |
| AVE HPSP = Total HPSP Tng Cost divided by number of accessions per year  |          |        |       |         |        |          |       |     |        |            |          |          |
| Tng Cost = Total Cost of Specialty Training Averaged Per Year  |          |        |       |         |        |          |       |     |        |            |          |          |
| # Figures extracted from Cost Effective Analysis, Zero Based Force Sizing Model, AMEDD Personnel Proponent Directorate, AMEDD Center and School, Ft. Sam Houston, TX, June 1992. |          |        |       |         |        |          |       |     |        |            |          |          |



## ENDNOTES

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